

MALARIA

DR. Najaf Masood



Introduction

- Characterized by paroxysms of
 - Fever
 - Chills and sweats
 - Fatigue
 - Anemia
 - splenomegaly



Conti.....

- 300 – 500 million cases
- >1 million deaths
- Most malarial deaths occur among infants



Conti.....

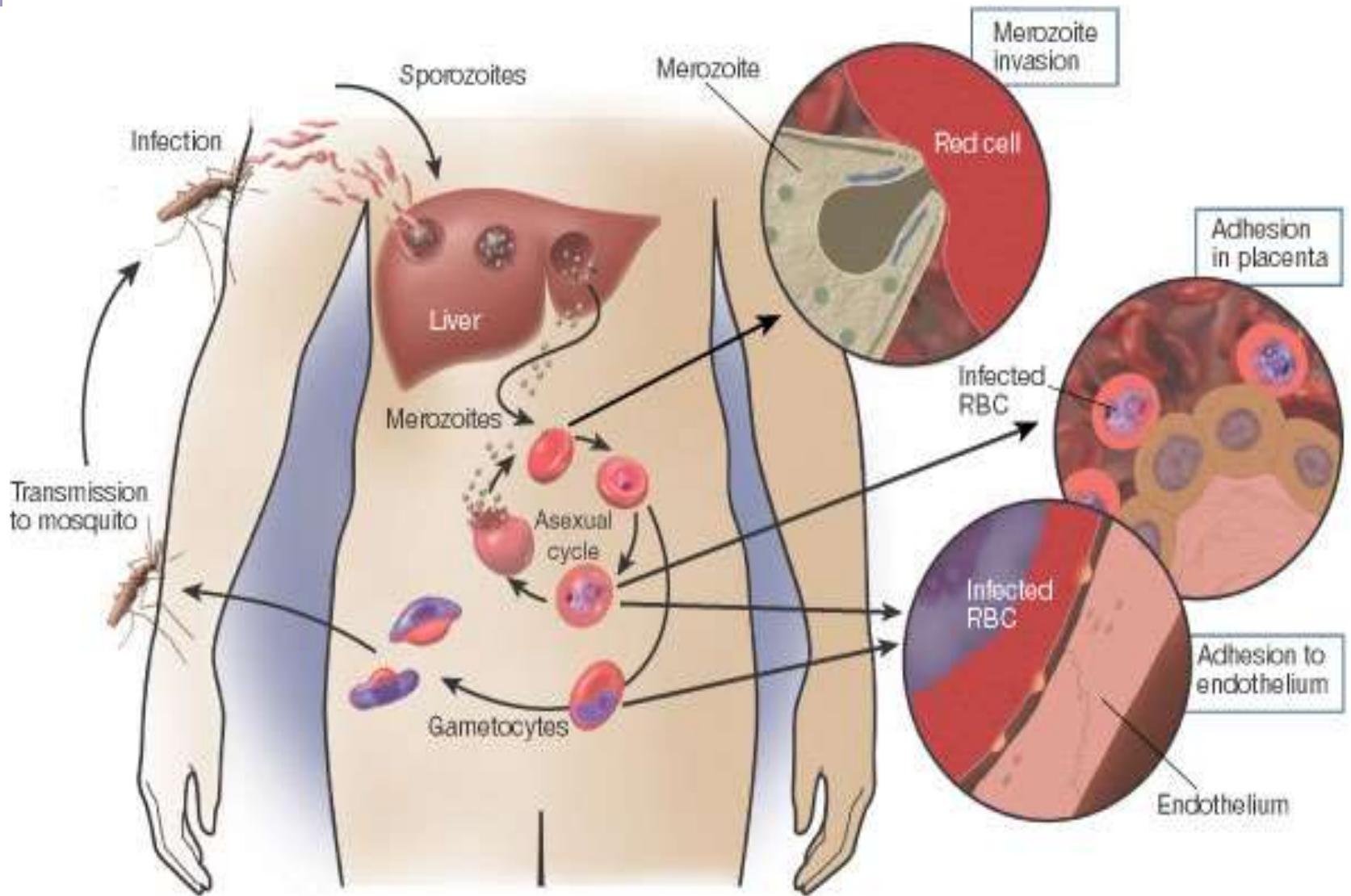
- Plasmodium cause malaria
- Female anopheles
- Four species
 - Falciparum
 - Malariae
 - Ovale
 - Vivax



ETIOLOGY

- Blood transfusion
- Contaminated needles
- Pregnant woman to fetus
- Organ transplantation







Pathogenesis

- Four pathologic processes
 - Fever
 - Anemia
 - Immunopathological events
 - Tissue anoxia

Incubation Period

- *P. falciparum*
 - 9–14 days
- *P. vivax*
 - 12–17 days
- *P. ovale*
 - 16–18 days
- *P. malariae*
 - 18–40 days.

Clinical manifestation

- Paroxysms of fever
- Fatigue
- Rigors
- Sweats
- Headache/Myalgia
- GIT symptoms
- Abdominal pain
- Pallor
- Jaundice





Children >2 mo of age

- Low grade to >104°F fever
- Headache
- Drowsiness
- Anorexia
- Nausea vomiting, diarrhea,
- Pallor, cyanosis
- Splenomegaly, hepatomegaly,
- Anemia , thrombocytopenia, a normal or low leukocyte count

Severe high risk malaria ...

- Depressed consciousness
- Seizures
- Irregular respiration
- Hypoxia
- Hypotension
- Tachycardia
- Dehydration
- Metabolic acidosis
- hypoglycemia

Congenital malaria

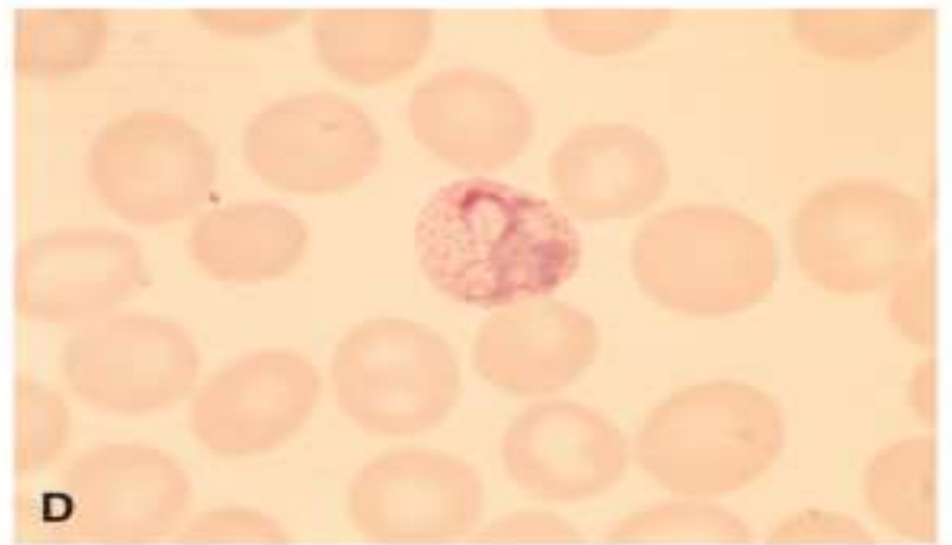
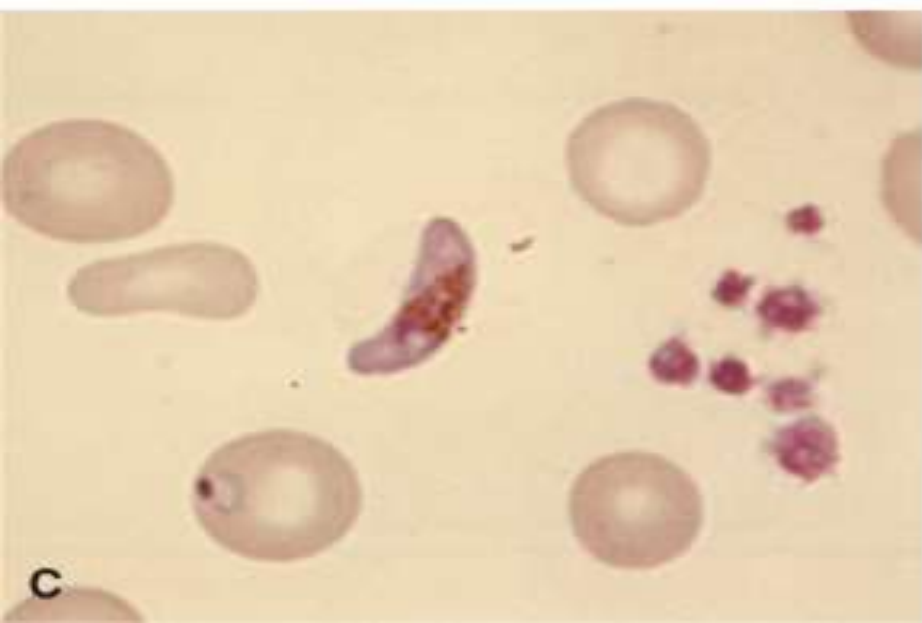
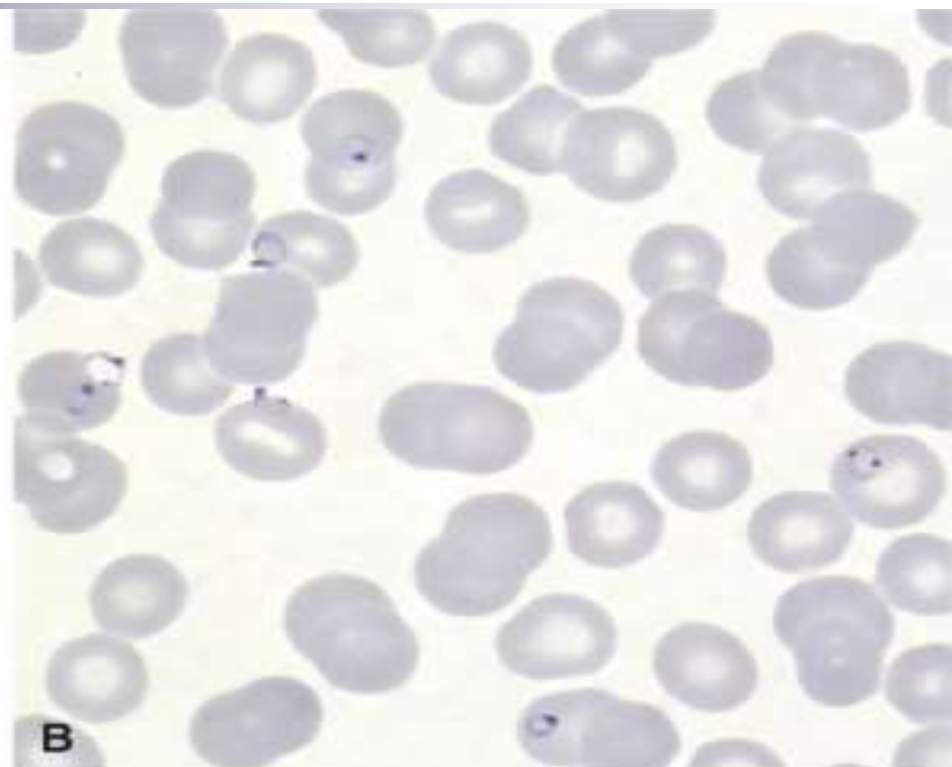
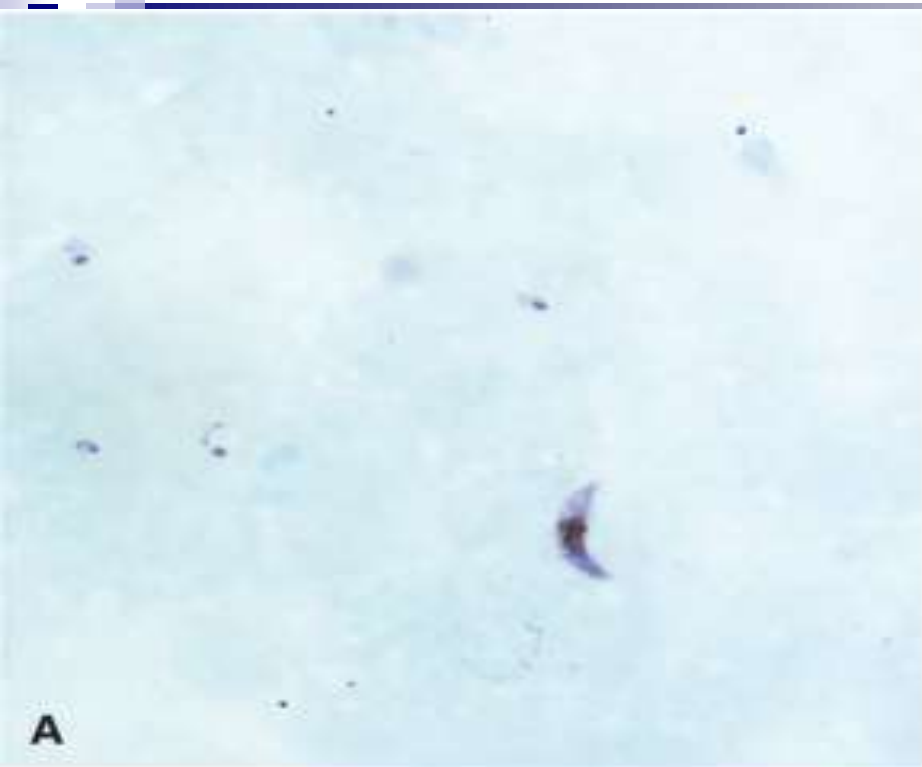
- B/w 10-30 days of age
- Fever
- Drowsiness
- Pallor
- Jaundice
- Poor feeding
- Cyanosis
- Hepatosplenomegaly





Diagnosis

- Thick & thin film
- Giemsa stained smear
- Monoclonal antibody test
- Polymerase chain reaction





Differential Diagnosis

- Viral infections
- Meningitis/Encephalitis
- Enteric fever
- Hepatitis
- Gastroenteritis
- Malignancy

Treatment

■ Uncomplicated/plasmodium F

■ Chloroquin sensitive

■ Chloroquine phosphate PO at 6,24, and 48

■ Chloroquine-resistant or unknown resistance

A. Quinine sulfate plus one of the following:
doxycycline, tetracycline or clindamycin

B. Atovaquone-proguanil

C. Mefloquine

- Uncomplicated malaria/*P. malariae*

- Uncomplicated malaria/*P. vivax* or *P. ovale*

- Uncomplicated malaria/*P. vivax*

- All regions

- All regions

- Chloroquine-resistant

- Chloroquine phosphate

- Chloroquine phosphate plus primaquine phosphate

- Quinine sulfate + either doxycycline or tetracycline or primaquine po4

- Mefloquine plus primaquine phosphate



Severe malaria	All regions	Quinidine gluconate plus 1 of the following: doxycycline , tetracycline
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Intravenous quinidine gluconate

■ Complicated malaria

- impaired consciousness
- Severe normocytic anemia
- Renal failure
- Pulmonary edema
- Circulatory shock
- Disseminated intravascular coagulation
- Repeated generalized convulsions
- Protracted vomiting.

Complications


- Cerebral malaria
- Renal failure
- Black water fever
- Pulmonary edema
- Hypoglycemia
- Thrombocytopenia
- Splenic rupture
- Algid malaria



Cerebral malaria

- Acute or insidious onset
- Decreased level of consciousness
- Severe headache
- Fever 106–108°F
- Seizures

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- Contracted or unequal pupils
 - Signs of upper motor neuron lesion
 - Retinal hemorrhages
 - Lumbar puncture
 - increased pressure and protein
 - with minimal or no pleocytosis
 - normal glucose concentration
 - EEG
 - Non specific

Prevention

- Well screened areas
- Permethrin treated netting
- Insecticides spray
- Mosquito repellents
- chemoprophylaxis



Chemoprophylaxis

CHLOROQUINE- SUSCEPTIBLE P. FALCIPARUM

Chloroquine phosphate

8.3 mg/kg (5 mg/kg base)
once weekly, up to the adult
dose of 300 mg base

CHLOROQUINE-RESISTANT P. FALCIPARUM

Mefloquine

<15 kg:5 mg/kg
15–19 kg:¼ tablet
20–30 kg:½ tablet
31–45 kg:¾ tablet

CHLOROQUINE- OR MEFLOQUINE-RESISTANT P. FALCIPARUM

■ Doxycycline

■ Atovaquone plus proguanil

■ 8–12 yr :2 mg/kg once daily

■ >13 yr :100 mg once daily

■ 11–20 kg:62.5 mg/25 mg once daily

■ 21–30 kg:125 mg/50 mg once daily

■ 31–40 kg:187.5 mg/75 mg once daily

■ >40 kg:250 mg/100 mg once daily



Immunity

- Hemoglobin S
- Fetal hemoglobin
- Duffy blood group antigen
- Ovalocytes



THANK YOU